

CHAPTER 11

GLOSSARY OF FORESTRY TERMS



Glossary of Forestry Terms

Access road – A temporary or permanent access route for vehicles into forestland.

Barriers – Obstructions to pedestrian, horse and/or vehicular traffic. They are intended to restrict such traffic to a specific location.

Bearing capacity – Maximum load that a material (soil) can support before failing.

Bedding – A site preparation method in which special equipment is used to concentrate surface soil and forest litter into a ridge 6 to 10 inches high on which forest seedlings are to be planted.

Bottom lands – A term often used to define lowlands adjacent to streams.

Broad-based dip – A surface drainage structure specifically designed to drain water from an access road while vehicles maintain normal travel speeds.

Brood trees – Trees that harbor reproducing insect pest populations. They often serve as sources of infection for neighboring trees.

Channel – A natural stream that conveys water. A ditch or channel excavated for the flow of water.

Check dam – A small dam constructed in a gully or other small water-course to decrease streamflow velocity, minimize channel scour and promote deposition of sediment.

Contamination – A general term signifying the introduction into water of micro-organisms, chemical, organic, inorganic wastes or sewage, which renders the water unfit for its intended use.

Contour – An imaginary line on the surface of the earth connecting points of the same elevation. A line drawn on a map connecting points of the same elevation.

Culvert – A conduit through which surface water can flow under roads.

Cut – Portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to excavated surface.

Cut-and-fill – Process of earth moving by excavating part of an area and using the excavated material for adjacent embankments or fill areas.

Dispersion, soil – The breaking down of soil aggregate into individual particles, resulting in single grain structure. Ease of dispersion is an important factor influencing the erodibility of soils. Generally speaking, the more easily dispersed the soil, the more erodible it is.

Diversion – A channel with a supporting ridge on the lower side constructed across or at the bottom of a slope for the purpose of intercepting surface runoff.

Diversion ditch – A drainage depression or ditch built across the top of a slope to divert surface water from that slope.



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Erosion – The process by which soil particles are detached and transported by water, wind and gravity to some downslope or downstream point. The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep; detachment and movement of soil or rock fragment, by water, wind ice or gravity.

Erosion classes (soil survey) – A grouping of erosion conditions based on the degree of erosion or on characteristic patterns. Applied to accelerated erosion, not to normal, natural or geological erosion. Four erosion classes are recognized for water erosion and three for wind erosion.

Fill slope – The surface area formed where earth is deposited to build a road or trail.

Firebreaks – Naturally occurring or man-made barriers to the spread of fire.

Fireline – A barrier used to stop the spread of fire constructed by removing fuel or rendering fuel unflammable by use of water or fire retardants.

Ford – Submerged stream crossing where tread is reinforced to bear intended traffic. A place where a perennial stream may be crossed by vehicle.

Forest chemicals – Chemical substances or formulations that perform important functions in forest management. They include fertilizers, herbicide, repellents and other chemicals.

Forest land – Land bearing forest growth or land from which the forest has been removed but which shows evidence of past forest occupancy and which is not now in other use.

Forest landowner – An individual, combination of individuals, partnership corporation, foundation, government agency, or association of whatever nature that holds an ownership interest in forest land.

Forest Practice – An activity relating to the growing, protecting, harvesting, or processing of forest tree species on forest land and to other forest management aspects such as wildlife, recreation, etc.

Grade – The slope of a road or trail expressed as a percent or change in elevation per unit of distance traveled.

Geotextile – A fabric underlayment for roads to increase bearing capacity.

Gully erosion – Erosion process whereby water accumulates in narrow channels and over short periods removes soil from this narrow area to considerable depths (one foot plus).

Harvesting – The felling, loading, and transportation of forest products, roundwood or logs.

Herbicide – Any substance, or mixture of substances, intended to prevent the growth of or destroy any tree, bush, weed, or algae and other aquatic weeds.

Herbicide mobility – The ease with which the active ingredients can move away from the area of application. This movement can be by drift, evaporation, rain, runoff or through the soil.

Insecticide – A liquid or chemical compound used to kill insects.

Intermittent streams – A stream or portion of a stream with defined stream banks, and scoured stream channel that flows during part of the year. Defined as a dotted blue line on the 1:24,000 USGS topographic maps.

Karst – A unique geological terrain formed in limestone and dolomite by the dissolving of bedrock, eroding of underground spaces, and collapsing of the ground surface. Karst terrain is characterized by sinkholes, caves and underground drainage patterns.

Landing – A place where logs are gathered in or near the forest for further transport, sometimes called a “deck”.

Logging debris – That unwanted, unutilized, and generally unmarketable, accumulation of woody material in the forest such as large limbs, tops, cull logs, and stumps that remain as forest residue after timber harvesting.

Mineral soil – Organic free soil that contains rock less than two inches maximum dimension.

Mulch – A natural or artificial layer of plant residue or other materials covering the land surface which conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes temperature fluctuations.

Mulching – Covering forest soil with any loose cover of organic residues, such as grass, straw, bark or wood fibers, to check erosion and stabilize exposed soil.

Nonpoint source pollution – Pollution that enters a water body from a diffuse origin on the watershed and does not result from discernible, confined, or discrete pathways.

Nutrients – Mineral elements in the forest ecosystem such as nitrogen, phosphorus, or potassium, that are naturally present or may be added to the forest environment by forest practices such as fertilizer or fire retardant applications. Substances necessary for the growth and reproduction of organisms. In water, those substances that promote growth of algae and bacteria; chiefly nitrates and phosphates.

Organics – Particles of vegetation or other biologic material which can degrade water quality by decreasing dissolved oxygen and by releasing organic solutes during leaching.

Oxidization – The process of breaking down organics into its basic chemical constituents.

Perennial stream – A stream that maintains water in its channel throughout the year. Defined as a solid blue line on the 1:24,000 USGS topographic maps.

Permeability, soil – The quality of a soil horizon that enables water or air to move through it. The permeability of a soil may be limited by the presence of one nearly impermeable horizon even though the others are permeable.

Persistence – The relative ability of a pesticide to remain active over a period of time.



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Pesticides – Chemical compounds used for the control of undesirable plants, animals, or insects. The term includes insecticides, herbicides, and rodenticides, but as used in this handbook does not include non-toxic repellents or other chemicals.

Pocosin – A rare natural community characterized by peaty soils and heath-like vegetation, tucked between coastal freshwater marshes and deepwater swamp forests of the Atlantic Coastal Plain. A high water table, an abundance of sphagnum moss, and the slow decay of dead vegetation contribute to the deep peat and acidic soils of these areas. Pocosins are one of Virginia's rarest wetlands.

Pollutant – Dredged soil, solid wastes, incinerator residue, sewage, garbage, sewage sludge, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. (P.L. 92-500, Section 502(6)).

Pollution – The presence in a body of water (or soil or air) of substances of such character and in such quantities that the natural quality of the environment is impaired or rendered harmful to health and life or offensive to the senses.

Puncheon – A structure used to cross wet locations on a trail, constructed of logs and/or lumber.

Regeneration – The young tree crop replacing older trees removed by timber harvest or disaster; the process of replacing old trees with young.

Residual trees – Live trees left standing after the completion of timber harvesting.

Rill erosion – An erosion process in which numerous small channels only several inches deep are formed. Occurs mainly on disturbed and exposed soils.

Rip-rap – Aggregate placed on erodible sites to reduce the impact of rain or surface runoff on these areas.

Rolling dip – A shallow depression built diagonally across a light duty road or trail for the purpose of diverting surface water runoff from the road or trail.

Runoff – In forest areas, that portion of precipitation that flows from a drainage area on the land surface or in open channels.

Ruts – Gullies or channels created by logging.

Salvage harvest – Removal of trees that are dead or imminently threatened with death in order to utilize wood before it is rendered valueless by natural decay agents.

Sanitation harvest – Removal of trees that are under attack by or highly susceptible to insect and disease agents in order to check the spread of such agents.

Sediment – Solid material that is in suspension, is being transported, or has been moved from its site of origin.

Seedbed – The soil prepared by natural or artificial means to germination of seed and the growth of seedlings.

Sheet erosion – The removal of a fairly uniform layer of soil from the land surface by water runoff.

Silvicultural activities – All forest management activities, including logging, log transport, and forest roads.

Site preparation – A forest activity to remove unwanted vegetation and other material, and to cultivate or prepare the soil for reforestation.

Skid trails – A temporary pathway over forest soil to drag felled trees or logs to a landing.

Slope – Degree of deviation of a surface from the horizontal, measured as a numerical ratio, percent, or in degrees. Expressed as a ratio, the first number is the horizontal distance (run) and the second is the vertical distance (rise) as 2-1. A 2:1 slope is a 50 percent slope. Expressed in degrees, the slope is the angle from the horizontal plane, with a 90 degree slope being vertical (maximum) and 45 degree being a 1:1 slope.

Sloughs – Normally sections of old stream channel that have been abandoned by the normal reach and flow of the stream, but that still may carry or flow water to the main channel, especially during periods of moderate to high water.

Soil – The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Soil conservation – Using the soil within the limits of its physical characteristics and protecting it from unalterable limitations of climate and topography.

Soil productivity – The output or productive capability of a forest soil to grow timber crops.

Stream – A permanently or intermittently flowing body of water that follows a defined stream course with scoured channel bottom.

Streamside Management Zone (SMZ) – An area of reduced management activity on both sides of the banks of perennial and intermittent streams and bodies of open water where extra precaution is used in carrying out forest practices in order to protect bank edges and water quality.

Streambanks – The usual boundaries, not the flood boundaries, of a stream channel. Right and left banks are named facing downstream.

Susceptibility – The likelihood of attack or infection by a destructive insect or disease organism.

Susceptible species – A type of tree or plant that has a high probability to be attacked by a given insect or disease agent.

Switchback – A 180 degree direction change in a trail or road used to climb steep slopes.
Thermal pollution – A temperature rise in a body of water sufficient to be harmful to aquatic life in the water.



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Toxicity – The characteristic of being poisonous or harmful to plant or animal life; the relative degree or severity of this characteristic.

Tread – Load bearing surface of a trail or road.

Turnout – a) A widened space in a road to allow vehicles to pass one another. b) A drainage ditch which drains water away from roads.

Vernal Pools – Vernal pools are seasonally flooded depressions found on ancient soils with an impermeable layer such as hardpan, claypan or volcanic basalt. The impermeable layer allows the pools to retain water much longer than the surrounding uplands; nonetheless, the pools are shallow enough to dry up each season. Vernal pools normally hold water for a minimum of two continuous months during spring and/or summer and are free of adult fish populations. These pools are required habitat for numerous amphibian and invertebrate species that have evolved to take advantage of the relative safety of waters without predatory fish.

Waste – Materials and substances usually discarded as worthless to the user.

Water bar – A diversion ditch and/or hump across a trail or road tied into the uphill side for the purpose of carrying water runoff into the vegetation, duff, ditch, or dispersion area so that it does not gain the volume and velocity which causes soil movement and erosion.

Water body – An area where water stands with relatively little or slow movement (ponds, lakes, bays).

Water course – A definite channel with bed and banks within which concentrated water flows continuously or intermittently.

Water pollution – Any introduction of foreign material into water or other impingement upon water which produces undesirable changes in the physical, biological, or chemical characteristics of that water.

Water quality – A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.

Water quality standards – Minimum requirements of purity of water for various uses; for example, water for agricultural use in irrigation systems should not exceed specific levels of sodium bicarbonate, pH total dissolved salts, etc. In Virginia the Department of Environmental Quality sets water quality standards.

Watershed area – All land and water within the confines of a drainage divide or a water problem area consisting in whole, or in part, of land needing drainage or irrigation.

Wetlands – Geographic areas characteristically supporting hydrophytic vegetation, hydric soils and some saturation or flooding during the growing season.

Wildfire Control – Actions taken to contain and suppress uncontrolled fires.

Wildfires – Uncontrolled fires occurring in forestland, brushland, and grassland.

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